

METHOD AND APPARATUS FOR FORMING AN OXIDE LAYER

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ABSTRACT

A steam oxidation process which provides uniform coverage of oxygen radicals across a surface of a substrate to enhance the oxidation rate and form a uniform layer of SiO₂. The steam oxidation process provides the heat and oxygen radicals for SiO₂ formation through the combustion of a process flame. The process flame can be fueled by a combination of H₂ and O₂ process gases. The process flame can include a plurality of process flames directed substantially perpendicular to the target substrate to provide uniform heating of the substrate and a uniform deposition of oxygen radicals across the surface of the substrate to enhance the formation of an oxidation layer.